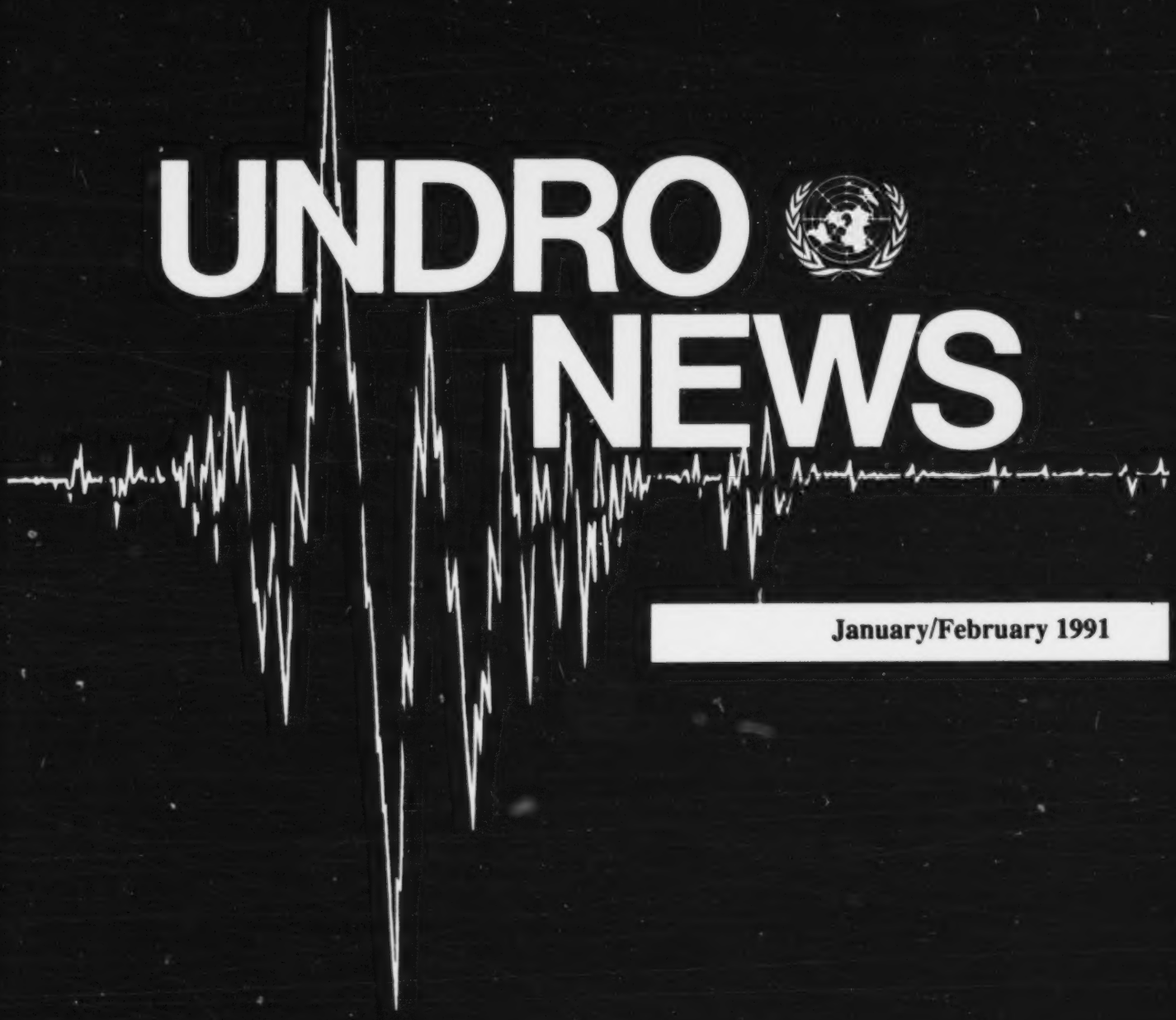
UNDRO NEWS



January/February 1991

- **Gulf Crisis:**
  Start-up Phase of the Regional Humanitarian Plan of Action

- **Principles and Practice of Disaster Mitigation:**
  An Example from Ecuador

OFFICE OF THE UNITED NATIONS
DISASTER RELIEF

BUREAU DU COORDONNATEUR
DES NATIONS UNIES POUR LES
SECOURS EN CAS

Editorial

From August to November 1990, several hundred thousand third country nationals fled Irak and Kuwait. This human tide of heterogeneous and disoriented people sought refuge in neighbouring countries: Iran, Jordan, Syria and Turkey. The United Nations launched a concerted international appeal, through UNDRO, to facilitate the transit and repatriation of the displaced.

As a result, over half a million nationals of Third World countries were repatriated through the combined efforts of UN agencies - HCR, UNICEF, UNDP, WHO, WFP and UNRWA - and the International Organization for Migration (IOM), co-ordinated at the Secretary-General's request by UNDRO. The ICRC and the LRCS, as well as a number of NGOs played an important part in this humanitarian endeavour.

In the early days of the crisis, no one could have predicted the number of people that would be affected. Nor was it possible to anticipate how events would unfold. In October 1990, as the war clouds gathered, a Regional Humanitarian Plan of Action was set up by the concerned Agencies of the United Nations system and the IOM to take account of all possible scenarios with a maximum of flexibility. The Plan, sharing out the tasks among the various Agencies is reviewed periodically and provides for the re-deployment of relief goods from one area to another as the need arises.

When war broke out on 17 January, the influx of people fleeing the war zone was not as great as had been initially expected. But at the time of writing, in early March, what began as little more than a trickle, before the ceasefire, has now increased as a number of displaced people make their way to countries neighbouring Iraq.

The contingency measures taken by the United Nations system and the IOM have already proved invaluable in providing shelter to over 70,000 people, of which 30,700 have been repatriated, since the beginning of the war. The present state of uncertainty as to the post-war situation in

D'août à novembre 1990, plusieurs centaines de milliers de resortissants de divers pays on fui l'Irak et le Koweït. Cette marée humaine, hétéroclite et désemparée, s'est réfugiée dans les pays limitrophes : Iran, Jordanie, Syrie et Turquie. Les Nations Unies lancent, par l'intermédiaire de l'UNDRO, un appel international concerté visant à assurer le transit et le rapatriement des déplacés.

Ainsi, les efforts conjugués des agences des Nations Unies (HCR, UNICEF, PNUD, OMS, PAM, UNWRA) ainsi que de l'Organisation internationale pour les migrations (OIM), coordonnés, à la demande du Secrétaire général, par l'UNDRO, ont permis de rapatrier plus d'un demi million de resortissants de pays du Tiers Monde. Le CICR et la Ligue des Sociétés de la Croix Rouge et du Croissant Rouge, ainsi que de nombreuses ONG, ont pris une part importante à cette entreprise.

Au début, nul ne pouvait prévoir le nombre de personnes qui seraient touchées par cette crise, pas plus qu'il n'était possible d'anticiper le cours des évènements. En octobre 1990, alors que la guerre menace, un Plan d'action humanitaire régional est mis en place par les agences concernées du système des Nations Unies et l'OIM afin de tenir compte des divers cas de figure possibles avec un maximum de flexibilité. Le Plan, répartissant les tâches entre les différentes agences et revu périodiquement, prévoit le redéploiement des biens de secours d'une zone à une autre en fonction des besoins.

Lorsque la guerre a éclaté, le 17 janvier, l'afflux de personnes fuyant la zone de guerre n'a pas été aussi important que prévu. Mais début mars, lors de la rédaction de cet éditorial, ce qui n'était qu'un léger mouvement de déplacés vers les pays limitrophes de l'Irak avant le cessez-le-feu a maintenant pris une certain ampleur.

Le dispositif de secours mis en place par les Nations Unies et l'OIM a déjà fait ses preuves et a permis l'hébergement de plus de 70.000 personnes, dont 30.700 ont été évacuées vers leurs pays respectifs, après le déclenchement de la guerre.

Iraq argues strongly in favour of maintaining the current level of readiness and flexibility to continue providing assistance to those in need.

The facilities set up by the United Nations could also, if required, be put at the disposal of the humanitarian operation decided on by the Secretary-General in favour of the civilian populations affected by the war in Iraq and Kuwait.

L'incertitude qui règne quant à la situation en Irak, à l'issue de la guerre, milite en faveur du maintien du niveau actuel de planification préalable et de flexibilité pour continuer de venir en aide à ceux qui en ont besoin.

Les structures mises en place par les Nations Unies pourraient aussi, le cas échéant, être mises au service de l'opération humanitaire, décidée par le Secrétaire général en faveur des populations civiles touchées par la guerre en Irak et au Koweït.

After the first wave of evacuees from the Gulf, a regional humanitarian plan of action was set in motion.

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Gulf Crisis

Start-up Phase of the Regional Humanitarian Plan of Action

In October 1990, the United Nations agencies involved in caring for and repatriating the hundreds of thousands of people who crossed into Iran, Jordan, Syria and Turkey, following the invasion of Kuwait by Iraq, set up a Regional Humanitarian Plan of Action for the transit countries to cope with a possible second exodus. The first wave, from August to November, transited mostly through Jordan (over 700,000). The UN action plan prepared for the possibility that a second wave of evacuees could transit through all four countries neighbouring Iraq. It was therefore kept flexible and was reviewed periodically in order to best respond to different scenarios.

Overall, inter-agency co-operation has rarely proved more efficient: camp infrastructure organized by HCR, medical needs met by WHO, sanitation and child care carried out by UNICEF, food supplies provided by WFP and repatriation of displaced persons undertaken by IOM.

In January and February, UNDRO convened 18 inter-agency meetings to co-ordinate UN system-wide action concerning the Gulf Crisis. In addition, the Office held three Information Meetings to brief members of the International Community on the implementation of the Regional Humanitarian Plan of Action. The following outlines the situation in the transit countries since the ceasefire:

Iran

Besides Jordan, Iran has so far been the country which has received the largest number of evacuees/ refugees following the outbreak of the Middle East/Persian Gulf Crisis. After 15 January, the flow of evacuees has continued and during the first month more than 8,000 people entered Iran from Iraq and Kuwait, mostly third country nationals. Since acceptance by Iraq of UN Security Council conditions, 27,500 Iraqis have entered Iran.

For the second phase of the emergency and in accordance with the updated Regional Plan of Action, the United Nations system, represented by WFP, UNHCR, WHO, UNICEF, together with IOM and co-ordinated by UNDRO, has been working to implement a start-up capacity for assistance to 25,000 people for a period of three months in Iran. A letter of understanding has been signed with the Government of the Islamic Republic of Iran, giving the modalities of the UN assistance to the relief activities undertaken by the Government.

So far, most of the evacuees/ refugees have entered at the Khasravi entry point in Bakhtaran Province in which three reception camps are being constructed by UNHCR, with a capacity of 5,000 people each. In addition, three transit centers have been set up for third country nationals at Qom, Varamin and Karaj with a combined capacity of 2,000 persons.

Missions led by the Senior UN Emergency Manager, have been undertaken to the Kurdestan, Kuzhestan and Ilam Provinces, in addition to Bakhtaran, and sites for camps are being selected.

Jordan

UNDRO Senior officer in Amman reported the following up-dated information on relief activities in the country:

The UN/IOM Inter-agency working group is co-operating closely to

Evacuees awating repatriation

ensure implementation of start-up activities in the framework of the Regional Plan of Action;

Present camps capacity is for 58,000 people with possibility of expansion if necessary. From 16 January to mid-March 1991, evacuees transiting through camps in Jordan amounted to 20,879 (excluding Jordanians), with a daily influx in the third week of March of approximately 1,000 people;

The number of persons on the Iraqi side of the border awaiting permission to enter Jordan was estimated at approximately 2,000. They receive regular assistance;

Continuous efforts were being made to keep camps fully operational, to meet any major influx.

* * *

Within the framework of the Plan of Action, UNDRO organized on 19 January an airlift of emergency supplies from its warehouse in Pisa, Italy. The cargo consisted of 6,000 blankets (including winter ones), donated by the Japanese Government, and four "Rubhall" tents, gift of the Government of Norway. These tents, measuring 240 sq. meters, were required in camps already established in anticipation of the arrival of a large influx of displaced persons, for the pre-positioning of relief goods. The total cost of the airlift amounted to some US $200,000.

Syria

United Nations agencies (UNHCR, WHO, UNICEF and WFP), in co-ordination with UNDRO, are putting the finishing touches on the establishment of an accomodation structure capable of hosting up to 25,000 people.

Along the northern frontier with Iraq, two reception camps - one at El Hol and the other at Abu Kamal - are capable at any time to host up to 10,000 people. Two transit camps - Ghuzlanyieh, within 8 km of Damascus, and Tartous, 10 km from the harbour - enable IOM to organize repatriations.

In addition, should it be required, the LRCS and ICRC could provide accomodation for another 40,000 people. Their material has been prepositioned in Damascus and preliminary work on the camps is underway. These efforts are perfectly complementary to each other, with the United Nations system setting up its camps in the northern zone and the LRCS/ICRC in the south.

By mid-February, only a few hundred civilians, mostly Iraqis, had succeded in crossing the snowed-up and mined mountainous border by way of mule tracks. In case the number of displaced persons entering Syria should not increase dramatically, the measures taken under the United Nations' Plan of Action would not be superfluous: an agreement has been signed with the Government of Syria whereby the relief material can be transferred to another country, should the need arise.

Turkey

In line with the agreement reached with the Government of Turkey on the objectives and effective assistance to evacuees with in the scope the Regional Humanitarian Plan of Action co-ordination bodies have been set up as follows:

For the Government: The Ministry of Foreign Affairs co-ordinates the relief effort, also involving the Ministries of Interior and Health, as well as the Turkish Red Crescent Society.

For the United Nations: The U.N. Resident Co-ordinator provides

liaison with the Ministry of Foreign Affairs and co-ordinates the activities of the U.N. Operations Group and the Emergency Management Team (UN system and IOM) which, on behalf of the Resident Co-ordinator is led by the Senior United Nations Emergency Manager (SUMEN) provided by UNDRO. A total of six U.N. and IOM international personnel are involved in the exercise in the country.

Pattern of Movements: The evacuees who arrived in Turkey soon after the outbreak of war have passed through the mountain areas to reach Hakkari and Simak provinces. That passage is extremely difficult due to the height of the mountain passes (2,000 m) and during the winter months, the depth of the snow (currently 2-3 m). The Iraqi border is closed and the flat terrain surrounding the Tigris river in the western part of the Iraqi side of the border is mined. Hence under the circumstances large numbers of evacuees were not expected and third-country nationals would be few. Since 12 February however there has been a marked increase in the number of arrivals, of around 200 per day, in both the western and eastern parts of the border.

Statistics of Evacuees (as of 15 March 1991): Camp Population: 4,492. Arrivals since 16 January 1991: 3,095 (unofficial estimated). Repatriate: 4.

Population Transit Centres and Referral Camps: The evacuees are received at the Turkish border posts by the *Gendarmerie* or military personnel, who carry out registration, apply any first-aid required, and arrange for transportation to the Transit Centres. Evacuees stay in such centres before being transported to the appropriate Referral Camps, which are further inside the country. All centres and camps are managed by the Ministry of Interior with appropriate assistance from the Turkish Red Crescent Society.

Some evacuees with their meagre luggage after arrival in Jordan.

Egypt

In close co-operation with the Italian Government, UNDRO donated tents, water tanks, generators and family kits to the Egyptian Government, in late January, to help meet the needs of displaced returning to Egypt. These relief goods - approximately 10 tons valued at over US $100,000 - were taken by road from UNDRO's Pisa warehouse to Rome airport. From there, the cargo was flown by Egyptair at the expense of the Egyptian Government.

* * *

At the end of January 1991 and in response to an appeal made by the UN Disaster Relief Co-ordinator, the Government of Argentina placed at UNDRO's disposal a B.707 freight aircraft for the transportation of relief materials to the Middle East. The transport of this material is directly related to the United Nations Regional Humanitarian Plan of Action.

This aircraft, crewed by Argentinian Air Force personnel, is based at UNDRO's Pisa Relief Depot at Pisa International Airport. The plane is also at the disposal of other U.N. and humanitarian agencies. Mid-March the aircraft has made eighteen relief flights carrying cargo from various cargo assembly points such as Warsaw, Pisa, and Athens to destinations in the region such as Larnaca, Bahrein and Aden, for, amongst other agencies, UNHCR and the League of Red Cross Societies. The aircraft was also used to fly a 21-member UN Humanitarian mission, led by Under-Secretary-General Mr. M. Ahtisaari, to Iran and Kuwait to assess the needs of the civilian populations after the ceasefire. Further flights are scheduled and will

include humanitarian relief donated by member states.

Thanks to a very generous offer from CERN (Centre Européen de Recherche Nucléaire), UNDRO was able to strengthen its emergency response mechanisms immediately following the outbreak of hostilities in the Gulf Region. For two weeks, volunteers from CERN's Fire and Rescue Group manned UNDRO's Co-ordination Centre day and night, taking care of incoming and outgoing emergency traffic. They also assisted in servicing the UN Inter-Agency Working Group on the Gulf, which was meeting in UNDRO's Co-ordination Centre every two days. ■

Camps are kept fully operational to meet any new major influx.

Secretary-General's Statement to the Press 1 March 1991

The Secretary-General of the United Nations met with executive heads of UN Agencies, on 28 February, to discuss humanitarian assistance to the civilian population in Iraq and Kuwait. The text of his statement to the press is reproduced here:

"The people of Kuwait have suffered greatly since August of last year and those of Iraq have recently endured immense hardship.

It was evident to us that the United Nations system must react with all due speed in order to provide help urgently to those in need. Every effort must be made to avoid further human suffering and to prevent catastrophes from occurring, notably in the fields of health and nutrition.

Having this in mind, and in light of my discussions with my colleagues, I have decided to ask Under-Secretary-General Martti Ahtisaari to travel to the area on my behalf on a short mission, at the earliest appropriate moment, and to report back to me on the various actions that the United Nations can take.

As far as emergency assistance is concerned, there has been considerable prior planning and various stocks have been prepositioned in the vicinity of the areas most affected by recent events. These stocks can be moved speedily to those in need.

Furthermore a joint mission, undertaken by WHO and UNICEF has just returned from Iraq, having sought to ascertain essential health needs there, especially among mothers and children. I am confident that action can be taken expeditiously on the basis of the findings of that mission.

I wish the peoples of the area to know that the United Nations system stands ready in the period ahead, to be of all possible help to them." ■

The Iraq/Kuwait Crisis

Report on International Assistance to Displaced People Through Jordan

UNDRO has recently published a report in English and French on international assistance to displaced people through Jordan, in relation to the Iraq/Kuwait crisis.

The report analyses the response of the international community to the emergency that arose as a result of the sudden influx into the Hashemite Kingdom of Jordan of third country nationals fleeing Kuwait or Iraq from early August to the beginning of November 1990.

According to statistical information provided by the Government of Jordan, over 700,000 third country nationals, from at least 10 developing countries (Bangladesh, Egypt, India, Pakistan, Philippines, Sri Lanka, Sudan, Syria, Thailand and Yemen) entered Jordan during the three-month period. The Government of Jordan opened its border to the influx. Nationals of developed countries were not permitted, except for a small number, to leave Iraq during that period.

The emergency operation assisted the Government of Jordan in arranging for the repatriation of third country nationals to their country of origin, and in facilitating their stay in Jordan from the time they entered the country to the time they left.

International assistance to Jordan for this operation was co-ordinated by UNDRO, which had been designated as lead agency for that purpose by the Secretary-General of the United Nations. The first UNDRO representatives arrived in Amman on 24 August 1990, twenty-four hours after the receipt of the request for international assistance made by the Jordanian Government and immediately started their work.

The purpose of the report is not to make a full evaluation of the operation, but rather to review its main features so as to gain experience for similar operations in the future and render humanitarian assistance more effective. The final chapter of the report is reproduced below:

Conclusions and Recommendations

The relief and repatriation of 750,000 displaced persons through Jordan was a unique operation. It was a remarkable achievement first and foremost for the Government of Jordan. Credit should also be given to the United Nations for very effective and successful support to the Government's efforts. The role

The relief and repatriation of 750,000 displaced persons through Jordan was a unique operation.

of NGO's and intergovernmental agencies (in particular the International Organization for Migration - IOM) is also to be highlighted.

The success of the operation is to be judged by the fact that there were no deaths attributed to camp conditions, no outbreaks of diseases or epidemics, and no disruption of the social fabric in Jordan. Unfortunately, however, about 80 people lost their lives when the buses transporting them to the airport had accidents.

During their visits to the camps, United Nations staff met with large numbers of displaced persons. Despite the circumstances, there were few complaints (even in Shalan 1). Indeed, praise for the relief services and an understandable desire for early repatriation were the overwhelming sentiments of the camp populations. Those with experience of refugee camps elsewhere in the world considered the conditions and management of the camps in Jordan (with the exception of Shalan 1) to be of the highest order.

Some of the lessons learnt from the international response to the crisis have been outlined in the preceeding sections of this report, especially the last section: "Main Problems and Difficulties Encountered". Some of these lessons are contingent upon the specific nature of the events. Others, however, could be taken into account in future emergencies. They include:

■ Co-ordination

The early confirmation of the co-ordinating body by the Secretary-General of the United Nations facilitated the immediate setting up of appropriate co-ordination mechanisms;

United Nations agencies should renew efforts to issue consolidated appeals and avoid separate appeals;

The establishment at Headquarters, from the outset and on an informal basis, of a United Nations contact group enlarged to include key relief agencies such as the Red Cross would facilitate co-ordination. Procedures for the issuance of United Nations appeals and terms to reference of participants should be agreed upon in advance;

United Nations agencies should intensify joint operational activities for the provision of staff, expertise and relief supplies.

■ Information

Information meetings with donors and relief agencies should be held immediately, even if data on hand are incomplete, in order to alert them to the situation;

The regular issuance of simple statistics on the caseload would be of great value for needs assessment and co-ordination.

■ Contributions by Donors

Donors should provide UNDRO with timely and exhaustive information on contributions, so that it could be used as a tool for management and planning in the course of the emergency; conversely, UNDRO should disseminate this information in its contributions reports as clearly and concisely as possible;

Donors' administrative procedures should be modified to accelerate significantly the payment of cash pledges and the delivery of contributions in kind;

In making contributions, donors should provide co-ordinating bodies with flexibility enabling them to respond to priority needs as they emerge; strict earmarkings should be avoided;

The possibility of establishing a cash reserve in UNDRO which could be immediately activated in case of an emergency needs to be carefully considered;

In line with past recommendations, donations of inappropriate food and medicines, or those either out-of-date or with limited shelf-life should be avoided.

■ Preparedness

The proposal for a data bank on donor expertise in relief management, as discussed at the Third Meeting of Officials in Charge of National Emergency Relief Services (NERS III, Geneva, 19-20 October 1989) could be further pursued, in the context of UNDRO information management systems, including UNIENET;

The United Nations should examine the possibility of setting up a stockpile of emergency dry rations;

In Jordan and in similar emergency situations, sanitation in the camps was a matter of concern. Relief agencies should consider expanding the services they can offer in this field;

As concerns UNDRO, it is important to draw on the experience gained in the Jordan emergency, which was basically a successful operation for the Office, in order to be able to approach future emergencies in an appropriate manner. The composition and size of the UNDRO team, the secretarial and equipment support needed for the team for such operations, the requirements for information dissemination, including to the media, are important elements in this respect. It was fortunate that UNDRO could use a large part of its staff for the Jordan operation but this would have been impossible if other important emergencies around the world had surfaced at the same time. The Jordan emergency clearly indicates that there is a need to review the strength of the staff of UNDRO.

A limited number of copies of this report UNDRO/91/1 are available on request. ■

An International Conference on Roles of Broadcast Media in Disaster Management

Within the past year increasing consideration has been given to the probability that improved relationships between broadcasters and disaster mitigation experts will lead to mitigation of some of the most devastating effects of natural disasters.

The role of broadcast media in disaster management has expanded significantly in the recent years reflecting both new advances in technology and an openness on the part of many countries to share information.

Early warning, preparation, onset coverage, and post disaster response are areas where broadcast media play a vital role in disaster management operations for all sudden hazards including earthquakes, floods, landslides, tsunamis, hurricanes, tornadoes, volcanic eruptions, and wildfires. Reporting of accurate prediction and warning information can dramatically reduce the consequences of natural disasters, and relief operations also benefit from information disseminated via the media.

Mitigation efforts for long-term hazards such as drought, insect plagues, desertification, and man-made hazards such as ozone layer depletion, can also be enhanced by the process of collecting and reporting accurate information to areas affected and institutions capable of providing assistance.

Large segments of the world are vulnerable to sudden disasters and survivable communications are not always available to most of these areas during the critical early phase of a disaster. This complicates the already difficult task of reporting on it by limiting the ability to share the information.

There is also a growing awareness that the relationship between media professionals and disasters managers, with respect to co-ordinated response plans and disaster coverage, are inadequate to cope with the requirements of an increasingly interdependent world that is information hungry.

In cases where disasters can be predicted and warning is possible (hurricanes, for example), the public reads, listens to or watches information that is presented by, various media. Before people respond, they process and interpret this information. The action then taken depends upon how the warning relates to them, personally; the perception of the veracity of the message; and the immediacy of the need to take action.

By design, or not, broadcasters play a crucial role in this process, and have enormous responsibility. Media professionals are also instrumental in providing information about the severity of a disaster, the extent of damage caused (and to whom), what support is required for the disaster's victims and how the public can appropriately respond to the needs of the victims.

After almost every disaster there is intense debate among groups affected or involved on what the media did or did not do, or what they should have done and why. Frequently there is no resolution to these debates. Neither are there ground rules nor institutionalized fora for their resolution.

With this in mind, the Center for Public Service Communications (CPSC) has proposed to conduct an international conference on Roles of Broadcast Media in Disaster Management. The venue and dates for this conference remains to be decided upon.

UNDRO has agreed to be a

conference sponsor and the North American National Broadcasters Association (NANBA) is prepared to assist in facilitating the participation of the international community of broadcasters.

The proposed conference will bring together selected broadcast journalists and disaster managers with the objective to define appropriate relationships between these groups in the areas of disaster preparation, onsite coverage and post disaster response.

The conference will be action-oriented. Prospective participants from the broadcast and disaster management communities will have the opportunity to discuss issues requiring common understanding and cooperative effort. It is also hoped that they will set the agenda for future cooperative initiatives and, where possible, establish protocols for disaster-related coverage that can be administered through participating broadcasting unions. ■

Central America: Meeting on Women in Disasters

The leadership of women and their potential for organization and evaluation are widely recognized and it is indispensable that women receive the same wide exposure to disaster training as men. This will allow them not only to carry out traditional post-disaster activities but also play important non-traditional roles during the different disaster phases. On this premise, representatives from the seven Central American countries, bilateral, and international agencies met in San Jose, Costa Rica, in September 1990, to discuss the Role of Women in Disaster Preparedness and Relief. A great deal of work went into preparing for this meeting, as the countries carried out surveys to collect information on the participation of women in disaster management and the perspectives for future development of the role of women in this area.

At the meeting, working groups discussed the findings of the surveys and the role of women at the community level, at the professional/technical level, and at the political and decision-making level. Recommendations were formulated on their role in prevention, preparedness, relief and rehabilitation. Both the country surveys and the complete text of the recommendations are excellent reference sources for countries who have, or are planning to undertake similar initiatives.*

**Copies in Spanish are available through PAHO's Regional Documentation, Apartado 3745, San José, Costa Rica.* ■

UNDRO Warehouse in Pisa

Goods donated by the Governments of Finland, Italy, Japan and Norway

Blankets
- 150X200 cm (80% wool)
- 150X210 cm (50% wool)
- 150X220 cm (60% wool)

Tents
- (12.5 m2)
- (24 m2)
- (32 m2)
- (43 m2)
- (46 m2)
- (240 m2)

Plastic water tanks
- (3,000 l)
- (3,500 l)
- (7,500 l)

Jerrycans (15 l)

Tarpaulins (24 m2)

Plastic sheeting
- (365 m2)
- (400 m2)

Plastic bags
- (50 l)
- (100 l)

Plastic pails

Generators
- (4 kva)
- (6.5 kva)
- (12 kva)

Trailers for generators

Transformers

Extensible cables (50 m)

Kitchen sets

Family kits

Mallets

Pickaxes

Saws

Shovels

Spades

Nylon rope (reels 200 m)

Thermic containers

Radio equipment (walkie-talkies)

Rubber boats with 25hp engine (8/10 persons)

A kitchen set is composed of various cooking and table utensils.

A family kit includes a kitchen set, two jerrycans, various hand tools, a petroleum lamp, matches, soap and water purification tablets.

For further details and information on availability of goods in stock, please call UNDRO Geneva 7346011 - Ext.: 3290.

Principles and Practice of Disaster Mitigation An Example from Ecuador

Past Disasters in Ecuador

Ecuador and its neighbouring countries, located on the well-known 'Ring of Fire' that encircles the Pacific Ocean, have had a long history of volcanic eruptions, earthquakes, tsunamis, landslides and floods, that commonly characterize dynamic tectonic settings such as the one found along the Andes of South America.

Numerous volcanic eruptions have marred Ecuador's history, the most destructive being those of Pichincha in 1660, of Cotopaxi in the 1700's and 1800's, and of Tungurahua in the early 1900's. Given the present expansion of the population and industry into high risk zones, future eruptions could have catastrophic effects upon its socio-economic growth.

Intermediate and large magnitude earthquakes have frequently taken their toll of lives and property in the coastal region, in the Andean highlands, and in the Amazon Basin. During the past 460 years it is estimated that this toll exceeded 80,000 deaths. Given the present population and its distribution, the next large earthquake could take that many lives in a few minutes. Or, as in 1987, an earthquake generated thousands of landslides that blocked petroleum exportation for eight months and severely damaged Ecuador's economy for years to come.

Tsunamis, generated by both local and distant earthquakes, have occasionally brought their destructive power to bear upon the coasts of Ecuador, Peru, and Colombia. With an ever increasing population living along the shoreline, the potential for a greater loss of life and property exists when future tsunamis again overrun certain segments of these coasts.

Equally important if not more, have been climate-caused disasters, principally associated with the El Niño phenomenon*, a periodic oceanic disturbance in the Pacific Ocean basin that affects atmospheric circulation and results in heavy rainfall and flooding along the coast of Ecuador, Peru and Colombia. The 1982 El Niño disaster, the worst to hit the world since World War II, caused havoc over many regions of our planet: severe floods in many countries in South America, prolonged droughts in parts of Australia and most of Indonesia. It resulted in hundreds of deaths and hundreds of millions of dollars worth of damage in these countries due to flooding, landslides, and related economic losses. *(See article UNDRO News Sept./Oct. 1983).*

Clearly, Ecuador and its neighbours are continually threatened by these numerous natural hazards, any one of which could have a devastating impact on the country's well being and progress at any time.

The UNDRO/USAID Project

Citing the potential for a great natural disaster in the near future, a proposal was prepared by the *Instituto Geofísico of the Escuela Politécnica Nacional* and the National Office of Civil Defence in Quito, Ecuador, in collaboration with UNDRO, that focussed upon the urgent necessity of evaluating these natural hazards and incorporating their significance and implications into civil defense planning. With the financial support of the Office of Foreign Disaster Assistance (OFDA), of the United States Agency for International Development (USAID), this proposal became a

El Niño de la Natividad, meaning the Christ Child, is the name given to the phenomenon by South American fishermen since it usually occurs around Christmas time.

formal project that began in January 1987.

Volcanic Eruptions

Past eruptions of Ecuador's many volcanoes have caused significant loss of life and property. Because the population and industrial infrastructure are progressively spreading into high risk areas, and hydroelectric dams, pipelines, highways, and railroads are located on or near the lahar paths, the next eruption of a snow-clad volcano will almost certainly have a severe socio-economic impact on the country.

Given this situation the UNDRO-USAID/OFDA Project focuses primarily upon mitigating this potential danger by strengthening three principal activities, already initiated by the *Instituto Geofísico of the Escuela Politécnica Nacional*:

- evaluating the volcanic hazards and risks,
- establishing permanent volcano monitoring,
- improving Civil Defense's prevention and preparedness programmes.

A volcanic hazards evaluation attempts to determine the nature and extension of volcanic events most likely to occur during the future eruption of a particular volcano.

The Ecuadorian technical authorities, with help from UNDRO-sponsored experts, have prepared evaluations and maps for Ecuador's historically active volcanoes, including Cotopaxi, Tungurahua, Pichincha, Antisana, and Quilotoa as well as for other dormant cones, such as Cuicocha, Pululagua, Chimborazo, and Imbabura, that present a significant threat to neighbouring cities. The maps were distributed to national, regional, and local civil defence offficials as well as to government authorities. Furthermore the experts conducted workshops on volcanic hazards evaluation that trained participants from ten Latin American countries in the methodology.

A programme of permanent monitoring of the active, dangerous volcanoes was initiated, so that any reactivation could be detected early, thus permitting Civil Defence to optimize its time for emergency planning and preparedness. This programme includes seismic monitoring, geodesic measurements to detect possible swelling of the volcano, and periodic temperature and geochemical analyses, in addition to repeated photographic documentation.

As volcanic hazard evaluations proceeded and initial monitoring began, a close working relationship was established between the technical authorities (in particular the *Instituto Geofísico of the National Polytechnic School)* and the National Office of Civil Defence. Overcoming several mythical and religious beliefs, Civil Defence began an awareness campaign aimed not only at the general public, but also at the different levels of governments, so that the country would learn to co-exist with its environment and its dangers. Key to their campaign is the message that 'civil defence begins at home'.

Earthquakes

Along the western edge of South America exists one of the most active subduction systems of the world. Here the Pacific Ocean floor, moving eastwards, dives under the South American Continent. The results of this compressional movement are the melting of rocks that give rise to the famous volcanic chain, and active mountain-building reponsible for the formation of the Andes.

Like its neighbours, Ecuador suffers continually from earthquakes

UNDRO/D.Zupka

The Capital city of Quito lies at the foot of the Pichincha Volcano.

(Continued on page 19)

UNDRO at Work

(January/February 1991)

RELIEF: MOBILIZATION AND CO-ORDINATION

■ **Afghanistan - Earthquake:** On behalf of the Government, UNDRO launched an appeal for international assistance, following the severe earthquake which struck the Hindukush region of Afghanistan near the border with Pakistan on 1st February. The official incomplete casualty and damage figures put the death toll at 130, families affected 1,440 and losses equivalent to US $26 million. Relief efforts were hampered by the remoteness of the mountain area and by heavy snowfalls.

UN agencies in both Afghanistan and Pakistan worked jointly to reach the affected areas by air and land. UNDRO has dispatched two logistics experts to strengthen the UNDP/UNDRO Office in Kabul.

❑ **Floods:** Heavy rains in late January coupled with melting snow in central Afghanistan caused floods in the southwestern region of the country (Farah, Nimroz, Hilmand, Kandarhar, Balkh and Zabul Provinces). The official incomplete figures on casualty and damage are 415 persons killed, 17,863 families affected, and losses equivalent to US $62 million. At the Government's request UNDRO issued an appeal for international assistance on 5 February.

■ **Colombia - Fire:** In the first week of February, a fire swept through the reserve Sierra de la Macarena, some 150 km (90 miles) southeast of Bogota, affecting 30,000 hectares of low woods and prairies.

UNDRO was alerted by the Colombian Ambassador in New York and issued two Information Reports.

■ **Costa Rica** : Grâce à une contribution de l'Italie d'un montant de Lit 300 millions (US $269,058), reçue fin janvier, l'UNDRO a pu effectuer, par l'entremise du Représentant Résident, l'achat et la distribution de matériaux de construction et de réparation pour environ 3,000 habitations endommagées par le tremblement de terre qui a frappé le 22 décembre dernier la partie septentrionale du pays. A la suite de l'appel à l'assistance internationale du gouvernement le 28 décembre, l'UNDRO a diffusé à ce jour deux rapports de situation et a enregistré des contributions d'un montant total de US $320,604.

■ **Ethiopia:** Construction of an aircraft maintenance hangar for Ethiopia's Relief and Rehabilitation Commission has been completed. Formal acceptance of the work took place in the second half of February. The hangar will be handed over to RRC's Air Services for use by all humanitarian organizations engaged in emergency air transport operations in Ethiopia. The Government of Italy, which financed the Project, requested UNDRO to assume responsibility for its implementation. The project became operational a year ago.

■ **Honduras - Floods:** In response to UNDRO's appeal concerning the floods in Honduras last December, the Government of Italy pledged a contribution of US $448,430 through UNDRO to cover the emergency needs and to prepare for rehabilitation. UNDRO is in touch with the Resident Representative in Honduras to determine the utilization of these funds.

■ **Iran - Floods:** The Government requested UNDRO to launch an appeal for international emergency assistance following severe floods in the provinces of Sistan and Baluchistan, near the borders with Afghanistan and Pakistan. UNDRO made available to the UNDP/UNDRO Resident Representative a cash grant for the local purchase of emergency supplies.

■ **Mauritius - Cyclone:** Cyclone "Bella" struck the island of Rodrigues in Mauritius at the end of January 1991, causing considerable damage. Although the Government did not launch an international appeal, UNDRO issued an Information Report indicating damage and urgent needs. Steps are also being taken for the rapid implementation of a cyclone-preparedness project for Mauritius.

■ **Pakistan - Earthquake:** On 1 February an earthquake struck northern Pakistan. Most affected locations were along the border with Afghanistan, in Chitral and Bajaur. At the request of the Government, UNDRO launched an appeal for international emergency assistance and released an emergency cash grant.

■ **Peru - Cholera Epidemic:** On 14 February 1991, at the request of WHO/PAHO, UNDRO issued an international appeal to assist the victims of the cholera epidemic which has been spreading in the coastal areas of Peru since 31 January. As of 8 March, 65,198 cases had been registered, of which 16,754 had been hospitalized and 363 had died, according to WHO/PAHO.

The appeal, which was based on a request of the Peruvian Government reviewed by WHO/PAHO, totalled US $3.9 million for drugs, disinfectants, equipment for oral treatment and laboratory diagnosis and control.

International assistance towards this epidemic has been reported to UNDRO from the Governments of Brazil, Canada, Chile, Cuba, Japan and Spain, WHO/PAHO, UNICEF, EEC and MSF Europe.

■ **Guinea/Sierra Leone:** UNDRO emergency assistance programmes were set in place in countries neighboring Liberia. Under the direct supervision of the UNDP/UNDRO Resident Representative in Sierra Leone, over 950 returnees from Liberia were transported from Freetown back to their villages of origin. Furthermore, 2,000 Ghanaians were repatriated to Accra on board M/V Volta River, on 22 December, and shortly thereafter 100 Sierra Leonians returned home from Conakry. Over 30 medical kits procured by UNDRO from UNIPAC were handed over to the Red Cross, MSF and various hospitals. Similarly, UNDRO assistance to Guinea was utilized to feed, shelter, transport and repatriate thousands of "boat people" of various origins who had arrived in Conakry.

■ **Zambie - Opération aéroportée :** A la suite de l'épidémie de choléra qui a frappé la Zambie et tout particulièrement la ville de Lusaka début janvier 1991, le Gouvernement italien a demandé la coopération de l'UNDRO pour l'envoi sur place d'environ 24 tonnes de matériel de premier secours.

DISASTER MITIGATION

■ **Afrique :** Djibouti, la Guinée, le Lesotho, le Malawi, la Tanzanie et le Zimbabwe font appel aux ressources du Bureau du Coordonnateur, afin de disposer, d'un outil de gestion des catastrophes. Ces différentes requêtes font actuellement l'objet d'un examen minutieux de la part du Bureau qui s'emploie à susciter l'intérêt de donateurs potentiels.

■ **Egypt:** At the request of the Government of Egypt, UNDRO fielded a consultant for a three-week mission to Cairo from 13 February to 7 March 1991 to assess industrial hazards and to provide guidance and strategy in the industrial civil defense field. According to the UNDRO/UNDP Project Document, man-made disasters are rather frequent in Egypt and include, in order of priority, village fires, industrial accidents, building collapses, and environmental contamination.

The consultant will give lectures at the National Course on Industrial Civil Defence from 1-7 March, focused on the assessment of hazards and determination of threats, vulnerability analysis, strategy of industrial civil defense, emergency planning, and management.

■ **Mauritius:** An UNDRO consultant undertook a mission to the island from 4-24 January. The purpose of the mission was to identify priority disaster preparedness activities for early implementation, from among those recommended by a prior UNDRO mission in 1990. This was accomplished in consultation with various Government authorities, including the "Cyclone and Other Natural Disasters Committee" of Mauritius. The consultant's final report, which includes a list of priority activities, has now been received and has been forwarded to the national authorities for their consideration. One of the conclusions of the report is the requirement for a study of the disaster preparedness and mitigation needs of Rodrigues which is the distant sister-island of Mauritius. This island suffered severe damage from "Cyclone Bella" shortly after the completion of the consultant's mission.

■ **Tunisie :** L'UNDRO a organisé du 25 février au 1er mars 1991, en coopération avec l'Institut National de la Météorologie de Tunisie, un atelier sur l'atténuation des risques d'inondations. Deux fonctionnaires de l'UNDRO ont pris part à cet atelier.

■ **SASAKAWA/UNDRO Disaster Prevention Award:** Eighteen applications have been received for the 1991 Award, compared to 15 last year. The Jury Meeting will take place 2-3 May of this year in the Palais des Nations at Geneva.

INFORMATION, COMMUNICATIONS, EXCHANGE OF VIEWS AND CONTACTS

■ **On 28 February,** the UNDRO Co-ordinator attended a meeting of senior UN officials convened by UN Secretary-General Javier Pérez de Cuéllar to exchange views on the urgent humanitarian problems created by the crisis in the Gulf, to examine how the United Nations system could respond most effectively to the immediate humanitarian needs of the civilian populations of Iraq and Kuwait, and to consider longer-term arrangements following the cessation of hostilities in the region.

■ **Japanese Pledge for Gulf Crisis:** On 22 January 1991, His Excellency Hidetoshi Ukawa, Permanent Representative of Japan to the United Nations in Geneva, presented the Co-ordinator with a cheque of US $38 million, representing the full amount pledged by his Government in support of the UN updated Regional Humanitarian Plan of Action relating to the crisis between Iraq and Kuwait. The Co-ordinator expressed his deep appreciation for the generosity and promptness of the Japanese contribution.

■ **Nigeria:** On 10 January 1991, His Excellency Emeka Ayo Azikiwe Permanent Representative of the Federal Republic of Nigeria to the United Nations in Geneva, presented the Co-ordinator with a cheque of US $50 thousand as a contribution from his Government to the UNDRO Trust Fund.

■ **Saint-Siège** : Le Coordonnateur ainsi que d'autres dirigeants d'organismes internationaux a eu un entretien à Genève, le 21 février, avec le Cardinal Roger Etchegaray, Président du conseil Pontifical Cor Unum, chargé par le Pape de constituer, au nom de l'Eglise catholique, un Comité d'assistance aux victimes de la guerre du Golfe. La rencontre a permi d'envisager des perspectives de collaboration entre l'Eglise catholique et les organismes internationaux.

■ **Viet Nam:** The following message was sent by Vietnamese Foreign Minister Nguyen Co Thach to the UNDRO Co-ordinator on 23 February: "On behalf of the Vietnamese Government and people, I would like to express our sincere thanks to you and the UNDRO for having extended assistance to more than 16,000 Vietnamese nationals from Iraq during the time they spent in transit countries waiting for repatriation home."

■ **The United Nations Volunteers** held a Round Table on the "Role of UNV Specialists in Emergency Relief and Rehabilitation Programmes" at their Geneva Headquarters on 14 February 1991. Representatives of Permanent Missions and UN Agencies in Geneva took part. UNDRO was represented by its Director Mr. F. Mayrhofer-Grunbuhel and the Project Manager of its Liberia relief operations, Mr. T. Lewis. The meeting stressed the increasing involvement of UN Volunteers in relief work.

■ **The Ambassador of Argentina** to the United Nations Office in Geneva, Mr. Juan Archibaldo Lanus, called on Mr. Essaafi on 24 January to inform him that his Government was putting a Boeing 707 freight aircraft at UNDRO's disposal for the transportation of relief supplies to the Middle East *(See Gulf Crisis page 4)*

■ **Disaster Management Training Project:** Fifteen United Nations staff members, mainly from UNDP and UNDRO but including participants from UNICEF, UNHCR, WFP and WHO, have attended a trainers' workshop at the University of Wisconsin from 23 January to 8 February. They are the first group of a UN training team that is to execute regional and country courses within a major Disaster Management Training Project that is being jointly implemented by UNDRO and UNDP.

■ **Disaster Communications:** UNDRO's plan of action in disaster communications for 1991 has been finalized, and implementation began in the period under review. It concerns mainly:

- Implementation of recommendations on UNDRO's 1990 International Conference on Disaster Communication in close co-operation with the Center for Public Service Communications.
- Procurent of Standard C satellite terminals from the Norwegian Government donation of NOK 275,000.
- Training of UNDRO staff in operating the Standard C terminal.
- Co-operation with the International Telecommunication Union (ITU) in procurement of various communication equipment for emergency assistance.
- Agreements with several NGOs on the use of their staff and communication equipment in case of major disasters.
- Preparatory work on Conference on Disaster

Communications. Tamfere, Finland - May 1991, organized by the International Institute of Communications, with the support of ITU and UNDRO.

- Meeting on Transborder Use of Mobile Earth Stations, organized by INMARSAT in London. The meeting was initially planned for February, but was postponed for overall security reason.
- Regional Workshop on the Application of Space Techniques to Combat Natural Disasters (China, September 1991), organized by the Division on the Peaceful Use of Outer Space Activities, co-sponsored by UNDRO, is already being prepared.
- Exhibition of UN Outer Space Activities, organized in New York in February 1992 by the UN Secretariat, is also under preparation.

The total value of the 1991 Disaster Communications Programme for which donor contributions are being sought, is US $200,000.

■ **The seventh UNIENET Board meeting** was held at UNDRO on 20 December 1990. Board members have been briefed on the UNDRO project to develop the network as an initiative for the IDNDR. They have been invited to report on their experience in contributing to the network. They expressed their willingness to support UNDRO's effort in this enterprise. Recent additions to UNIENET of a Disaster Emergency Contacts Database and of the FAO's Global Information and Early Warning System Bulletin Board were also announced.

❑ **Emergency Situation Reports:** Since February 1991 UNDRO has encouraged facsimile and electronic mail dissemination of messages in order to reduce communications costs.

■ **Search and Rescue Editorial Meeting:** In preparation for the International Search and Rescue Workshop, which is scheduled to be held from 8 to 12 April 1991 at Wattener Lizum (near Innsbruck), Austria, UNDRO convened a meeting in Geneva on 31 January and 1 February 1991. Participants in the meeting included representatives from Austria, Colombia, Ecuador, France, Germany, Sweden, Switzerland and United States of America. The main purpose of the meeting was to review and streamline the four draft search and rescue protocols to be submitted at the Workshop. These protocols establish a programme of co-operation among search and rescue teams and define the responsibilities of all parties involved, so as to strengthen efficiency and co-ordination of search and rescue missions after sudden disasters in populated areas.

The four protocols will be: 1. *Disaster Affected Country's Responsibilities;* 2. *Assisting Country's Responsibilities;* 3. *On-site Co-ordination Centre (O.C.C.);* 4. *International SAR Advisory Committee.*

Appreciation was expressed for the financial support of Canada, Germany, United States and United Kingdom towards UNDRO's activities in this important field. A few days after the editorial meeting, Switzerland announced its decision to pledge a contribution to the Workshop's costs.

■ **International Search and Rescue Directory:** UNDRO has begun receiving replies to the questionnaire which it sent out to serve as a basis for the preparation of the International Search and Rescue Directory. Recipients of the questionnaire are invited to reply as soon as possible, if they have not already done so.

■ **UNDRO Office New York:**

Address to NGOs: On 28 January, the Director of UNDRO, New York Office, Mr. Philippe L. Boullé addressed in the Dag Hammarskjold auditorium the representatives of some 180 NGOs accredited to the United Nations on the Theme of "UN response to sudden emergencies: the examples of Jordan and Liberia".

Participation in NGO meetings in New York and Washington, DC: On 9 January, a representative of the UNDRO New York Office attended a briefing on the Gulf situation organized by Interaction in Washington, DC. He presented to the meeting details of the UN Humanitarian Plan of Action for the Gulf Crisis.

On 5 February, the Director of UNDRO/NYO attended another briefing organized by Interaction on the Gulf Crisis, this time in New York. He made a presentation on current United Nations efforts for displaced persons/ refugees in Iran, Jordan, Turkey and Syria.

TV Programme - World Chronicle: On 13 January, the UN programme World Chronicle, which is relayed by 26 TV stations around the U.S. made a 30-minute programme with the Director of UNDRO/NYO on the situation in the Gulf and in Liberia.

Senior Officials' meeting, 24-25 January: The Director of UNDRO/NYO represented UNDRO at the annual meeting of the United Nations Senior Officials in the Economic and Social Sectors chaired by the Director-General for Development and International Economic Co-operation. The meeting discussed ways and means of strengthening multilateral co-operation in the two sectors.

The Director of UNDRO/NYO served as resource person for part of the UNDRO/UNDP Training Course at the University of Wisconsin, Madison, from 31 January - 1 February 1991.

From 12-21 January, the Director of UNDRO/NYO was stationed in Turkey where he served as the U.N. Senior Manager within the context of the original plan of action for the Gulf.

■ **United Nations Environmental Emergency Center:** An UNDRO staff member participated in the UN agencies consultative meeting concerning the proposed UN Environmental Emergency Centre, in Paris from 18 to 19 February 1991. The discussions focussed on the

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Comité français pour la Décennie

Le Gouvernement français, dans le cadre de la Décennie Internationale pour la prévention des catastrophes naturelles, a décidé de constituer un Comité National.

Il est présidé par M. Jean Aubouin, Président de l'Académie des Sciences, assisté de deux Vice-Présidents, M. Philippe Masure, Directeur du Département Environnement et Risques au BRGM et M. J. L. Le Mouel, Administrateur de l'Institut de Physique du Globe à Paris.

Il est constitué d'experts dans les domaines des risques naturels et de représentants d'organismes du secteur économique. Les administrations principales concernées sont associées aux travaux du Comité.

Sa première réunion s'est tenue le 10 octobre 1990 au Secrétariat d'Etat chargé de l'Environnement et de la Prévention des Risques Majeurs. ■

Colombia Commemorates IDNDR Day with Presidential Decree

In commemoration of the International Decade for Natural Disaster Reduction Day which was celebrated on 10 October, the Government of Colombia enacted Presidential Directive No. 33 calling on public sector agencies and units to do everything in their power to help strengthen the nation's National Disaster Prevention and Attention System. To accomplish this, the government has set forth the following directives:

- All agencies that make up the nation's health system, under the direction of the Ministry of Health, should ensure that each section maintain their emergency health and hospital plans up-to-date.

- International disaster assistance should be officially requested only when the needs are clearly identified and national resources are insufficient.

- Colombia will apply this same principle to the aid it provides to other affected countries. ■

News of National Committees

An IDNDR sub-committee to New Zealand's National Civil Defence Committee has been formed, following a meeting of all major government departments, welfare organizations and the media, convened by the Director of Civil Defence, in April 1990. The membership of the Committee is not restricted to government organizations.

The sub-committee has already identified a number of on-going projects as falling within the framework of the IDNDR.

These include:

- a programme to monitor changes in the climate (Ministry of the Environment),
- research on building in earthquake-prone areas,
- volcanic and earthquake monitoring,
- weather forecasting programmes of the New Zealand Meteorological Service,
- a tsunami warning and mapping programme (Ministry of Civil Defence),
- participation in the United Nations sponsored Indonesian Disaster Management Project (Ministry of Civil Defence).

Earlier, in March, the Royal Society of New Zealand held a similar meeting, with the former Minister of Science and Technology, Mrs. Margaret Austin, who was also Minister of Civil Defence, to endorse two projects of relevance to the Decade. ■

(Continued from page 13)

Principles and Practice of Disaster Mitigation: An Example from Ecuador

generated by the collision of the Pacific floor with the continental margin.

In Ecuador, a series of four major earthquakes with magnitudes greater than 7 has occurred since 1906, that of 31 January, 1906, with Richter magnitude 8.6 being one of the largest ever registered in the world.

UNDRO/D.Zupka

The modern part of Quito is constructed on an active seismic fault and on slopes liable to landslides

The UNDRO-USAID/OFDA Project seeks the mitigation of earthquake disasters by identifying and evaluating the major fault systems, monitoring their seismicity, installing strong motion instruments, and reviewing the present building code.

In collaboration with an UNDRO-sponsored expert and Colombian geologists, the major fault systems were identified from previous studies, satellite images, aerial photographs, and finally by extensive fieldwork. These faults were traced from southern Colombia down through central Ecuador. A map is being prepared for publication to show their precise locations, so that regional and national long-term planning will take into account their presence and associated danger.

With the support of UNDRO and the advice of the National Technical-Scientific Committee, which identified the high risk earthquake regions, Civil Defence began to intensify its public education programme throughout the country. This was accomplished by the distribution of educational pamphlets, and through seminars and panel discussions. Special attention has been given to schools, where along with an awareness programme, a civil defence unit, first aid units, and fire brigades are being set up. Furthermore, each school has to carry out an evacuation exercise once a year.

Tsumanis

The forecast of a possibly great earthquake offshore of central Ecuador before the end of the century has promoted both interest and concern along the coast.

The western coast of South America is one of the most seismically active zones on earth. The eastern Pacific Ocean Plate, as it is subducted under the South American Plate, often generates earthquakes of great magnitude, many of which exceed 8 on the Richter scale. These great earthquakes, if they originate under the sea, can produce destructive tsunamis.

The Santa Elena Peninsula, an area of important socio-economic development in Ecuador, occupies a precarious position in this belt of tsunami activity.

With the objective of protecting the lives and property of the population residing in the low areas occasionally flooded by tsunamis, as well as to improve the long-term planning for the development of the Santa Elena Peninsula, the Oceanographic Institute of the Ecuadorian Navy (INOCAR), Civil Defence of Guayas Province, and National Civil Defence, with the support and technical assistance of UNDRO, carried out studies between 1987 and 1989 on the tsunami threat to the peninsula.

The emergency plan for the peninsula prepared by Civil

Defence includes education programmes and the establishment of local civil defence teams. In 1989, a desk-top simulation exercise was successfully carried out and a real evacuation practice was scheduled for 1990. An UNDRO expert participated in evaluating the plan which also included instructions for authorities and persons responsible for the evacuation exercise, as well as for the general population in the threatened zones.

The evacuation of the population, to safe areas that have been clearly defined on the evacuation map, is the essential part of the emergency plan.

UNDRO's Approach to Disaster Mitigation

Disaster mitigation programmes, if designed adequately and implemented effectively, play an important role in a country's development.

They are based on two principal components: *Prevention and Preparedness*. *Prevention* is intended to determine the scientific and technical nature of probable disaster-causing phenomena that may occur in the future, and the means to provide permanent protection for people and property from their impact. *Preparedness* seeks to determine primarily how people can be evacuated to safety and looked after when a disaster is imminent or has occurred. The logical sequence is to start with prevention and proceed to preparedness activities, i.e. to base logistical plans on the study and understanding of probable future disaster scenarios. For instance, better siting and the reinforcement of structures, a typical prevention measure, will ease emergency management planning requirements. In view of the close interrelationship of prevention and preparedness, these activities are generally presented jointly under the heading of disaster mitigation.

Experience obtained during a major disaster or emergency has drawn attention to the need for better pre-disaster planning as a prerequisite to efficient relief management.

This involves a sequence of prevention and preparedness activities as follows:

- Hazard evaluation
- Risk assessment
- Disaster prevention measures
- Emergency planning
- Public information and training

The implementation of the activities listed above requires the technical knowledge and co-operation of various disciplines, including the natural sciences, engineering, planning, public safety, civil defence, health, welfare, and public information.

The role of UNDRO is to encourage disaster-prone countries to implement such activities systematically in the high-risk areas, and to bring together the various disciplines involved in finding the most appropriate methods of responding. Each type of disaster and each high-risk area requires a specific combination of prevention and preparedness measures. The growing number of requests for assistance in disaster mitigation addressed to UNDRO reflects the increased understanding that, by committing modest resources to such activities, it is often possible to considerably reduce loss of life and property and to better protect the environment.

Floods

Both Ecuador and Colombia have abundant water resources, thanks to the high rainfall associated with the influx of moisture-laden air from both the Amazon Basin to the southeast as well as from the Panama Basin to the northwest. Unfortunately their varied climates also result in atmospheric and water-related disasters, both from an over abundance of water -floods- as well as from its scarcity -droughts- in isolated areas.

The larger disasters are the result of extraordinary rainfall related to the El Niño Phenomenon,

Floods in Ecuador

disturbance of the climatic equilibrium in the eastern Pacific Ocean every 5-8 years that invariably produces abnormal precipitation in Ecuador, Peru, and Colombia. From August 1982 until February 1983 and, to a lesser extent, in 1987-88, this phenomenon produced devastating floods along the coasts of Peru and Ecuador, taking hundreds of lives and causing damage estimated in hundreds of millions of dollars.

The Ecuadorian Government sought assistance from UNDRO in the field of disaster prevention and mitigation.

In collaboration with the National Institute of Meteorology and Hydrology (INAMHI) and the National Institute of Hydraulic Resources (INERHI), the UNDRO-USAID/OFDA Project selected two pilot regions in which flood disaster prevention and mitigation have a high priority and could be demonstrated best; first the region around the cities of Guayaquil and Babahoyo (the basins of the rivers Chimbo, Bulubulu, and Babahoyo) and secondly, Cuenca, capital of Azuay Province, which frequently suffers from flash-floods on four rivers, of which the Tomabamba river is especially dangerous.

Civil Defence began a programme of public education oriented toward flash-flood mitigation and including an evacuation exercise in 1990.

Disaster prevention and preparedness programmes, such as those being developed in Ecuador, are formulated, first and foremost, to reduce the impact of a natural disaster, and at the same time, to tell the public and civil defence how to respond to a disaster. Equally important, these programmes help to make the public more aware of natural dangers that exist in an active region, and have the long-term objective of psychologically preparing the inhabitants to co-exist with earthquakes, tsunamis, and eruptions. Similar programmes, implemented long ago in California and Japan, are successful examples of this policy.

Furthermore, if well informed, the public as well as local and regional authorities are less likely to utilize high risk areas for the construction of buildings or other important works, thus effectively accomplishing improved land use planning of the area, even though no formal government policy exists for that purpose. A case in point is the suspended construction of hundreds of houses, in Cotopaxi's mudflow-threatened plains, due to widespread publicity and to the Civil Defence's preparedness activities in the region. The long-term goals of disaster mitigation can only be achieved if the public is well-informed and is able to respond knowledgeably to the threats of natural disasters. ■

This is an extract from the UNDRO publication "Disaster Prevention and Preparedness project for Ecuador and Neighbouring Countries". (May 1990).

Copies of this publication can be obtained from the UNDRO Information and Publications Unit.

Towards a Better Preparedness to Man-made Disasters

A brainstorming meeting on the proposal for a Conference on Security, Stability and Co-operation in Africa was convened in Addis Ababa, Ethiopia from 17-18 November 1990. H.E. General Olusegun Obasanjo, Chairman of the Africa Leadership Forum, H.E. Salim A. Salim, the Secretary-General of the Organization of African Unity (OAU), and Prof. Adebayo Adedeji, the Executive Secretary of the Economic Commission for Africa (ECA) were the joint Convenors and co-chairpersons of the meeting. Prof. G.L. Monekosso, WHO Regional Director for Africa also took part in the brainstorming meeting.

All the speakers agreed on the need for a new outlook in Africa. The continent is facing problems of monumental proportions requiring an urgent and radical approach. The conflict situations, refugees, economic stagnation and a host of other problems have undermined security. There is therefore an urgent need to take measures to arrest this development.

With regard to disasters and emergencies workshops could help senior decision-makers in gaining a global view of related problems and the necessity of involving all national services in planning and management to limit their effect.

Training of National Disaster Relief Co-ordinators

A training programme is being developed for improving the management and planning skills and knowledge of the officials having fulltime responsibilities in national disaster relief co-ordination. In order to maximize the benefits of training, participants will be divided into two groups. The first, grouping together the four land-locked countries (Burkina Faso, Chad, Niger and Mali) in the early half of 1991. The second, for the four costal or island countries (Cape Verde, Guinea-Bissau, Mauritania and Senegal) in the second half of 1991. French would be the working language of both seminars. For linguistic reasons, training for Gambian personnel would be provided in a English speaking country. Arrangements would be made for them to attend one of the annual seminars organized by training institutes, specialized in the field of disaster management.

An Instructor Training Guide

The countries of the Sahel all have institutions for higher learning, and the basic human resources to provide training services. To assist the Sahelian countries in training managers from various relief services a manual will be designed outlining practical guidelines and models for various types of training activities in disaster management.

Support Unit for Training

In order to support the Sahelian and eventually other African countries in training the managers and personnel of national relief services a training unit will be organized within the UNITAR European Office. The training unit will operate in close working co-operation with UNDRO and other bodies of the U.N. system and the CILSS Secretariat.

Project Monitoring, Reporting and Evaluation

At the end of the first and second year, a detailed evaluation report will be drawn up by UNITAR which will show the integration of the programme with any other initiatives which could have been undertaken in training. ■

Based on an article published in the Ark, Issue No. 6, January 91.

Nepalese Disaster Management Study Tour in South East Asia

Present-day disaster management in Nepal dates back to 1982, when the Natural Calamity Act came into existence. The Government soon realized that a National Disaster Preparedness Plan was needed to improve the response to natural disasters. It therefore requested assistance from UNDP/UNDRO to establish, within the existing framework of the Ministry of Home, a special Disaster Unit, to implement the national policy concerning all aspects of disaster preparedness and relief, and to co-ordinate disaster relief operations.

In order to familiarize Nepalese Government officials with the State of the Art of disaster preparedness and relief co-ordination in other countries of the region, a study tour to neighbouring disaster-prone countries was arranged. In March 1990 five Nepalese disaster management officials visited Thailand, Indonesia, Bangladesh and the Philippines within the framework of the UNDRO/UNDP project entitled "Institutional Support to Disaster Preparedness and Relief Plan". The following is a brief summary of their report.

First stop: Thailand

In Thailand the group was briefed at the Asian Disaster Preparedness Centre. The study-tour team met with Civil Defence officials in Bangkok and in Chiang Mai, and was given information on the organizational structure, procedures and planning activities of Civil Defence.

Fire is a growing problem in larger towns where urban population is expanding rapidly. The team was impressed by the Thai fire-fighting mechanisms, managed by the various metropolitan municipalities,which are well equipped with trucks, pumps, pick-up cars, transceivers and ambulances. The Nepalese officials had the opportunity to watch a fire-fighting demonstration by a fire brigade in Chiang Mai.

The team was also fully briefed on flood protection, a serious source of concern in Nepal and a major problem in Bangkok. Flooding is a recurrent hazard in this huge metropolis due to tidal effects, seasonal inflows, high rainfall, low efficiency of drainage systems and difficulties in controlling land use.A visit was made to the flood control operation centre of Bangkok, which has prepared a detailed flood map of the city.

Meteorological data is incorporated into the centre's database, enabling it of forecast and provide avance warning of impending floods. The centre has reached near automation through the use of telemetric systems and computer analysis.

Disaster Training and Research in Indonesia

In Indonesia, a visit was made to the Indonesian Disaster Management Centre in Jakarta where the team was informed that a project similar to the one in Nepal had been undertaken with support from UNDP/UNDRO. The project was due to be extended to consolidate the success achieved so far.

The IDMC serves as a clearing house for national and international co-operation. Its main purpose is to enhance disaster management capabilities in Indonesia, and to provide training and carry out research.

The Nepalese officials also met with representatives from the Meteorological and Geophysical Agency in the Ministry of Communications. The Agency is responsible for 150 meteorological stations, 5,000 rainfall posts and 28 seismological centres throughout the country. A number of field trips were undertaken notably in Java province at the site affected by the 1990 eruption of Mt. Kelud, the second highest volcano in Indonesia. Here the team obtained first-hand information on the procedures that were followed by the Department of Social Affairs, following a warning from the Volcanology Agency,to evacuate some 40,000 people from the danger area, and provide them with food and water.

Of particular interest to the study group was Indonesia's recently established Application and Evaluation Agency (BPPT), under the Ministry of Research and Technology in co-operation with the USA (NASA), Japan, France, and US technical universities. The main responsibility of the agency is to recommend the choice of technology suitable to Indonesia. It has started to analyse all types of hazards having had disastrous consequences in the past, and to develop techniques to analyse, monitor, forecast and give early warning. The agency has a disaster prevention laboratory, which conducts studies and identifies hazard prone-areas so that all the responsible ministries can comply with its guidelines. The Agency is chaired by the Minister of Research and Technology, who is directly responsible to the President.

The Nepalese officials indicated that they had benefited greatly from the information gathered in Indonesia. This had provided valuable orientation for their own country's disaster management practices.

Philippines: Sectoral Disaster Planning

The purpose of the visit to the Philippines was to study the contingency and sectoral disaster planning models applied in the country in addition to the in-country disaster training institutions.

The National Disaster Co-ordinating Council headed by the Secretary of Defence, is responsible for co-ordinating disaster mitigation and relief at the national level while the Office of Civil Defence serves as the Secretariat of the NDCC and has the operational mandate.

The Philippine National Red Cross Society (PNRC) is the only Non-Governmental Organization represented in the National Disaster Co-ordinating Council, and provides emergency assistance in case of a natural disaster. The Nepalese team noted that the PNRC's strength come from a widespread network of volunteer services operating at all levels, down to the village level.

At the Philippine Atmospheric Geophysical and Astronomical Services Administration, the team visited the Weather Bureau's flood forecasting centre, while at the National Mapping and Resource Information Agency, the Nepalese officials were shown techniques for integrated survey mapping, remote sensing and land classification.
A visit was also made to the Department of Social Welfare and Development, which provides relief and rehabilitation assistance to disaster victims.

A Common Approach for Bangladesh and Nepal

Nepal and Bangladesh have much in common and the team's visit provided an opportunity to exchange information and experiences of mutual interest. Flooding, in particular is a concern for both countries. The study tour team met with officials from the Water Development and Flood Control Division in the Ministry of Irrigation, whose main responsibility is to provide flood forecasting and warning. The Nepalese Government officials were informed that efforts were being made at the political level to develop an integrated system for forecasting and warning of floods in India, Nepal and Bangladesh, and that such a system would allow the prediction of floods three days ahead of the actual event.

The study tour gave Nepalese Government official an excellent opportunity to learn about disaster management mechanisms as well as legal, organizational and operational systems in other Asian countries. It has proved to be a valuable incentive to improve disaster preparedness and prevention measures in Nepal. ■

Floods in Bangladesh. Flooding is of particular concern to both Nepal and Bangladesh.

UNDRO at Work

(Continued from page 17)

advisability and feasibility of such a Centre, considering the existing UN structure and services.

■ **Mozambique - UN Workshop on Post-War Planning:** An UNDRO delegate participated in a one-day U.N. meeting in Maputo on 6 February 1991 to discuss the appropriate approach to the issue of post-war planning and to adopt a common methodology within the UN system for co-ordination and implementation of the Plan of Action for the return of refugees from neighbouring countries.

■ **Early Warning System for Flows of Refugees/ Displaced:** On 21 February, two UNDRO staff members participated in an informal meeting to discuss the question of the establishment of an early warning system for flows of refugees and displaced persons. The meeting was held at the request of the Secretary of the Organizational Committee of the ACC, based on a recommendation of the Joint Inspection Unit to establish such a system. The result of the meeting was an agreement on certain suggestions for inclusion in a draft decision by the ACC on this question. The suggestions included the designation of a central focal point within the UN system for such matters, and the establishment of a Working Group to consider the means of developing an early warning system and to create an inter-agency consultative mechanism for dealing with related questions.

■ **UNDRO was represented at a UNEP-organized meeting** in Geneva on the ecological effects of the Gulf war, from 5 to 7 February. Representatives from several specialized agencies, among others, IMO, WMO, WHO and FAO shared information on the impact of the oil spill in the Gulf and their respective agency's activities or plans with regard to the oil spills. Since some agencies had already received requests for assistance against oil pollution from Gulf countries, the meeting discussed the formulation of contingency plans.

■ **An UNDRO Representative attended a WHO** Executive Board meeting from 14 to 25 January for discussions related to the consequences of the Chernobyl accident.

■ **At the invitation of the Economic and Social Commission for Asia and the Pacific,** an UNDRO staff member attended an ESCAP/UNDRO regional symposium on the International Decade for Natural Disaster Reduction, from 11 to 15 February, in Bangkok.

■ **On 30 January 1991, Mr. Owada,** Deputy Vice-Minister for the Ministry of Foreign Affairs of Japan visited UNDRO and exchanged views with the Co-ordinator on the recent situation in the Gulf Crisis. Mr. Owada stated that, in addition to the financial contribution of US $58 million which Japan has already made for this crisis, his Government was considering a further contribution.

■ **UNICEF's Executive Director, Mr. James P. Grant,** paid a visit to UNDRO on 26 January 1991. He was accompanied, *inter alia*, by the Director of UNICEF's Emergency Operations, Mr. Charles La Munière. The discussions with the Co-ordinator, the Director and other staff of UNDRO centered on co-operation on behalf of displaced persons and refugees in the wake of the Iraq/Kuwait crisis.

■ **UNDP's new Senior Advisor to the Administrator, Mr. Michael Priestley,** called on UNDRO in early January 1991 and held extensive discussions on joint activities, namely with the Co-ordinator and his Deputy/ Director of UNDRO.

■ **PAHO's** (Pan American Health Organization) **Relief Chief, Mr. Claude de Ville de Goyet,** visited UNDRO on 14 December 1990 for an extensive exchange of views with its Director on the further strengthening of co-operation between the two organizations.

■ **Dr. Kebeasy, Director of the Institute of Astronomy and Geophysics, Cairo,** member of Steering Committee on Disaster Preparedness and Prevention, visited UNDRO 15 February 1991 and reviewed in detail the implementation programme for 1991 concerning the UNDRO/UNDP Project on Disaster Preparedness Planning in Egypt to include the provision of UNDRO Consultants, the purchase of pilot earthquake monitoring equipment and fellowship study abroad.

■ **The President of the National IDNDR Committee of Switzerland, Ms. Déglise,** accompanied by members of the Committee, met with UNDRO officials on 21 February for a briefing on the role and activities of the Office within the framework of IDNDR in view of future co-operation.

■ **Other Visitors:** The following people visited UNDRO Geneva and met among others, with the Chief of the Relief Co-ordination Branch:

Mr. D. Krumm and *Mr. J. Fishkelm* of the Bureau for Refugees Programme, Washington, D.C.; *Mr. R. Iroine,* Director of World Vision; *Mr. Fujita,* Section Chief, Grant Division, Ministry of Foreign Affairs, Japan; *Mr. B. Vereechen,* Ministry for Development Co-operation, the Netherlands; *Mr. U. Christofferson,* Director for Middle/Europe, Save the Children Fund, USA. The UNDP/UNDRO Representative in Peru, *Mr. P. Den Baas* visited UNDRO on 21 February to discuss the drought and cholera emergencies in Peru with senior UNDRO officials. ■

Conferences

International Symposium on Geophysical Hazard in Developing Countries and their Environmental Impacts Cairo, Egypt - April 21 - 27, 1991 - Hazards' 91

The objectives of this series of symposia on natural and man-made hazards is to promote the advancement of hazard sciences, to perceive and explore those aspects that may be similar among some of the various hazards, to review the newest developments in a few selected fields, and to outline new directions for future research.

Hazards-91: The theme for the 1991 meeting the fourth, since 1982, is Geophysical Hazards in Developing Countries and their Environmental Impacts. The 1991 meeting also aims at establishing closer links between research and practice and at bringing together academic researchers, public, private, engineering sector professionals as well as policy makers involved in hazards research or mitigation activities in the world.

The International Society for the Prevention and Mitigation of Natural Hazards (NHS) is the principal scientific organization sponsoring HAZARDS-91. The meeting is co-sponsored by the following organizations: The Tsunami Society, the International Association for the Physical Sciences of the Oceans (IAPSO), IAPSO Commission on Marine Natural Hazards, and the International Tsunami Information Center. The Symposium is hosted by the Egyptian Academy of Scientific Research and Technology.

For further information:

Dr.T.S. Murty, Institute of Ocean Sciences, P.O. Box 6000, Sidney, B.C., Canada V8L 4B2.

or

Professor M.I. El-Sabh, Dept. d'Océanographie, Université du Québec à Rimouski, 300, Allée des Ursulines, Rimouski (Québec) Canada G5L 3A1.

International Conference on Seismology and Earthquake Engineering (SEE-1) Tehran, Iran - May 27 -29, 1991

The International Institute of Earthquake Engineering and Seismology (IIEES), in conjunction with UNESCO, is to host its First International Conference on Seismology and Earthquake Engineering from May 27-29, 1991 in Tehran, Iran. This will be cosponsored by the major Iranian Universities and scientific institutions involved in the furtherance of earthquake understanding and therefore preparedness.

This conference sets out to bring together scientists and engineers and to collate knowledge from the many and varied aspects of seismology and earthquake engineering. The topics under discussions are aimed at a better understanding of earth movements and at safer structural design and preparedness techniques.

Speakers are invited to present new findings and to share the latest technological advancements in this field. Owing to the recent disaster in the North of Iran, issues concerning earthquake damage and ways to mitigate damage will be earnestly pursued.

The IIEES was founded in Tehran in 1989 in order to channel all research activities related to seismology and earthquake engineering through one established institute at the level of international standard. The IIEES is an officially registered, non profit-organization.

According to the Institute's principle, its sole purpose is to promote and advance scientific and engineering research in the area of Seismology and Earthquake Engineering. It also aims at developing public awareness in these fields and at channeling the latest scientific and technological finds by means of conferences, seminars, short educational courses and workshops. Aside from the domestic responsibilities, the IIEES due to its by-laws will also establish co-operation programme with international institutes around the world in order to exchange information and staff for training and research purposes.

The official languages of the Conference will be English and Farsi.

For further information, please contact:

Organizing Committee, SEE-1, P.O. Box 19395-3913, Teheran, Islamic Republic of Iran, Tel.: 275484, Telefax: 827253, Telex: 213419 DIFIR.

UCLA International Conference: Impact of Natural Disasters (University of California Los Angeles, USA) July 10 - 12, 1991

The Conference is sponsored by International Studies and Overseas Programmes with the support of the Latin American Center and the Center for Pacific Rim Studies. It is co-sponsored by American International Group, Inc., the California Seismic Safety Commission, the City of Los Angeles, United Nations Economic Commission for Latin America and the Caribbean, Federal Emergency Management Agency, United Nations Centre for Regional Development, Nagoya, Japan, United Nations Educational, Scientific and Cultural Organization, and United States Geologic Survey, in co-operation with Pan American Health Organization and World Health Organization.

The Conference aims at a cross fertilization of ideas from many disciplines and types of natural disasters and at providing a comprehensive approach to the important impacts of disasters, at local, national, regional and international level. The disasters to be addressed cover a wide spectrum including earthquakes, windstorms, floods, volcanic eruptions, wildfire, droughts, and environmental problems. The Conference aims at bringing together an interdisciplinary group of academic, governmental, and private industry experts, to present results of research and past experience and to discuss the agenda for the future in terms of needed research, mitigation actions and appropriate policies.

Topics will include:

- Impact of natural disasters dealing with economic, environmental, legal, medical and health, physical and technological, political, and social issues;
- Insurance aspects of natural disasters;
- Future international interdisciplinary co-operation.

Further information can be obtained from Professor Samuel Aroni, Conference Chair, GSAUP, UCLA, Los Angeles, California 90024, Tl.: (213)825-7430, Fax.: (213) 206-5566. E-mail BITNET IAO2SA10UCLAMVS

Counter-Disaster Staff Training 16 July -22 August 1991

The programme, modular in design to meet the special needs of individuals, is based upon small groups working with experienced tutors. The aim is to develop effective disaster preparedness planning and response management capabilities in senior/middle grade staff, from government and public service departments, police, armed and emergency services and non-government organizations from developing countries. A personal project related to an individual's working responsibility for disaster preparedness or response is a special feature of the programme.

For further information:
G N Ritchie, Director Cranfield Disaster Preparedness Centre, RMCS Shrivenham, Swindon, SN6 8LA, United Kingdom Fax.: 0793-782179/783878, Tel.: 0793 - 785287/785258.

Book Review

Disaster and Disaster Stress,
by A.J.W. Taylor

For some time now, stress has been recognized as a result of the pressures under which senior managers and businessmen work in today's competitive world. More recently, it has been seen as a factor affecting the performance of much more junior staffs, as they are introduced to new techniques and methods of work. It is, then, curious that so little attention has so far been paid to behavior in the particularly stressful situation of an emergency or actual disaster. By definition such situations are unusual, and if they are to be properly met, controlled, and restored to normality then correct, but often unaccustomed, actions must be taken, sometimes at great speed. These actions are required not from emergency managers only but also from survivors, and both classes may experience stresses, which may be made manifest in behavior either immediately or at some later date. The needs of both classes of people for support, for "non-material assistance" must be anticipated, planned for, and met.

In his book "Disasters and Disaster Stress", Professor Taylor has widened his field of investigation to include the stress induced in members of the public by their perception of various kinds of threat. Some of these threats (natural disasters or industrial accidents) can be visualized from past experience or from accounts of past similar events. Some are much more generalized, such as that of global nuclear war and its possible aftermath.
ISBN 0-404-63262-9

Disaster and Disaster Stress (Stress in Modern Society; no. 10) II. Series. RC451.4.D57T38 1989 - AMS Press, Inc. 56 East 13th Street, New York, N.Y. 10003, USA.

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